

## Product Brief

Intel® Celeron® Processors 1.66 GHz and 1.83 GHz

Embedded Computing



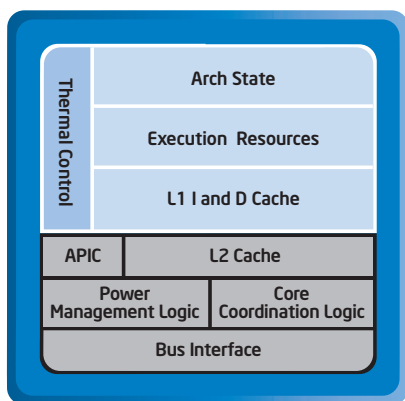
# Intel® Celeron® Processors 1.66 GHz and 1.83 GHz for Embedded Computing

## Product Overview

Intel® Celeron® processors 1.66 GHz and 1.83 GHz are single-core, low-power processors based on Intel's advanced 65-nanometer (nm) process technology, providing performance, value and power options for thermally sensitive, embedded, communications and storage applications. It is fully code compatible with existing Intel® architecture-based 32-bit application software.

These processors are validated with the Intel® E7520 and Intel® 3100 chipsets, enabling reduced power consumption with improved platform reliability and system manageability. Intel's comprehensive processor/chipset validation process enables fast deployment of next-generation platforms to help developers maximize competitive advantage while minimizing development risks.

Along with a strong ecosystem of hardware and software vendors, including members of the Intel® Communications Alliance ([intel.com/go/ica](http://intel.com/go/ica)), Intel helps developers cost-effectively meet design challenges and shorten time-to-market.



**Block diagram for the Intel® Celeron® processors  
1.66 GHz and 1.83 GHz on 65nm**

## Product Highlights

- 667 MHz front-side bus (FSB) and 27 watts thermal design power
- Single-core (uniprocessor support) with 36-bit physical addressing provides a value solution for high-performance, low-power applications
- On-die, 32 KB Level 1 instruction/data caches and 1 MB, ECC protected Level 2 cache with advanced transfer cache
- Data prefetch logic speculatively fetches data to the L2 cache before an L1 cache request occurs, resulting in reduced bus cycle penalties and improved performance; writer order buffer depth is enhanced to help with write-back latency performance
- Streaming SIMD Extensions 3 (SSE3) provide significant performance enhancement for multi-media applications; additional instructions designed to improve thread synchronization, complex arithmetic, graphics, and video encoding
- 667 MHz, source-synchronous FSB supports address, data, and response parity; provides a key reliability and data integrity feature for the communications, storage, and other embedded market segments
- Enhanced 36-bit memory addressing supports up to 16 GB of DDR2 memory when paired with the Intel E7520 chipset or Intel 3100 chipset
- Execute disable bit improves the overall security of the system by preventing viruses or worms that exploit buffer overrun vulnerabilities
- Embedded lifecycle support protects system investment by enabling extended product availability

## Intel® Celeron® Processors 1.66 GHz and 1.83 GHz for Embedded Computing

Product Number	Core Speed	Front-Side Bus Speed	L2 Cache	Thermal Design Power	VID	Tjunction	Package
LF80538KF0281M	1.66 GHz	667 MHz	1 MB	27W	1.1125V – 1.275V	100° C	478 µFC-PGA
LF80538KF0341M	1.83 GHz	667 MHz	1 MB	27W	1.1125V – 1.275V	100° C	478 µFC-PGA

### Intel Access

Embedded Intel® Architecture Home Page: [intel.com/design/intarch](http://intel.com/design/intarch)  
Developer's Site: [developer.intel.com](http://developer.intel.com)  
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